

Patent  
52478-0600**REMARKS**

The following remarks are prepared in response to the Office Action of December 19, 2005. Claims 1-6, 8-15, 17-42, 44-45, and 47-70 are pending in this application, after entry of this amendment. Claims 7, 16, 43 and 46 have been cancelled. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

The present invention provides an improved broadcasting apparatus, broadcasting method, a reception apparatus, and a reception program that receives and reproduces broadcast data. The broadcasting apparatus having an acquiring unit that acquires broadcast data and a reproduction time period in which the broadcast data is to be reproduced by a reception apparatus, a broadcasting unit that repeatedly broadcasts the broadcast data from a predetermined time period before a start of the reproduction time period to an end of the reproduction time period, a cache instruction broadcasting unit that broadcasts a cache instruction before the start of the reproduction time period, the cache instruction instructing the reception apparatus to cache only the broadcast data, and a reproduction instruction broadcasting unit that broadcasts a reproduction instruction during the reproduction time period, the reproduction instruction instructing the reception apparatus to reproduce, when the broadcast data has been cached according to the cache instruction, the cached broadcast data.

The present invention further provides an improved reception apparatus having a reception unit that receives, (a) from a predetermined time period before a start of the reproduction time period to an end of the reproduction time period, a first broadcast data group including at least first broadcast data to be reproduced during a reproduction time period, the first broadcast data being repeatedly broadcast, (b) before the start of the reproduction time period, a cache instruction instructing to cache only the first broadcast data included in the first broadcast

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data group, and (c) a reproduction instruction instructing to reproduce, during the reproduction time period, (i) when the first broadcast data has been cached, the cached first broadcast data and (ii) when the first broadcast data has not been cached, the received first broadcast data. The reception unit also includes a caching unit that caches, according to the cache instruction when the first broadcast data group is received during the predetermined time period, only the first broadcast data included in the first broadcast data group which is received by the receiving means before the start of the reproduction time period. Furthermore, the reception unit has a reproducing unit that reproduces according to the reproduction instruction.

The Office Action contends that Claims 1-70 are obvious over a combination of *Eldering* (U.S. Patent No. 6,615,039) in view of *Mori et al.* (EP No. 0827340).

Applicant respectfully traverses this contention.

Amended Claim 1 includes the following features:

[A] acquiring means for acquiring a first broadcast data group including at least first broadcast data and a reproduction time period in which the first broadcast data is to be reproduced by a reception apparatus;

[B] broadcasting means for repeatedly broadcasting the first broadcast data from a specific time to an end of the reproduction time period, the specific time being a point in time before a start of the reproduction time period, and a time period between the specific time and the start of the reproduction time period being a predetermined time period;

[C] cache instruction broadcasting means for broadcasting a cache instruction before the start of the reproduction time period, the cache instruction instructing the reception apparatus to cache only the first broadcast data; and

[D] reproduction instruction broadcasting means for broadcasting a reproduction instruction during the reproduction time period, the reproduction instruction instructing the reception apparatus to reproduce, when the first broadcast data has been cached according to the cache instruction, the cached broadcast data.

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According to the present invention, the broadcast apparatus is characterized in [B] by repeatedly broadcasting a broadcast data group before the reproduction time period, in [C] by broadcasting a cache instruction specifying first broadcast data in the broadcast data group and instructing a reception apparatus to cache the first broadcast data at an appropriate timing prior to the start of the reproduction time period, and in [D] by subsequently broadcasting a reproduction instruction. Hence, it is possible to specify the broadcast data, the reproduction time of which is approaching, instruct to cache the broadcast data, and instruct the reproduction of the broadcast data at the start of the reproduction time. The reception apparatus, having received these instructions, is able to accurately cache and reproduce the broadcast data based on the instructions, which leads to effective use of the cache memory. As a result, even if the amount of cache in the reception apparatus is reduced, the broadcast apparatus of the present invention eliminates the waiting time for reception and thereby utilizes less cache memory.

In contrast, the *Eldering* reference does not disclose, teach or suggest the broadcasting of cache instruction, nor does it disclose, teach or suggest the concept of selective caching. In fact, the word "cache" was never used in the *Eldering* reference. The *Eldering* reference is primarily concerned with transmitting auxiliary data within programming to different subgroups in a telecommunication system, so that the reception apparatus accumulates the auxiliary data. The *Eldering* reference discloses a method characterized by displaying auxiliary data of different advertisement contents to each subscriber based on subscriber characteristics. Column 10, lines 8-10 teaches that the auxiliary data is distributed in "non-real time" to a receiver. Then, after storing the auxiliary data, the receiver selects advertisement content from among the stored auxiliary data based on subscriber characteristics, and inserts the selected advertisement content into the primary program. [col. 10, lines 36-41].

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The *Eldering* reference discloses a receiver configured "with sufficient local storage to buffer the selected advertisements until they are needed, for insertion into the selected primary program or for other presentations, at a later time." [col. 10, lines 53-56]. When numerous auxiliary data are transmitted, the *Eldering* reference teaches to always store all of the auxiliary data and selectively reproduce the data based on subscriber characteristics.

In contrast, amended Claim 1 selectively cache data before the reproduction time period in accordance with a cache instruction. The *Eldering* reference does not disclose, teach or suggest the broadcasting of cache instruction, nor does it disclose, teach or suggest the concept of selective caching before the reproduction time period in accordance with a cache instruction.

The Office Action notes that in *Eldering*, "the ads (i.e., first and second broadcasting data) can be sent in advance of their reproduction time period." [page 3, lines 1-2]. However, in rejecting Claim 7, the Office Action contended that "[i]n instances when the data is sent in real-time, the insertion data will be sent during a reproduction time period." [page 4, lines 14-15].

*Eldering* states that the "auxiliary data is distributed in non-real time . . . and is stored locally at the selected receivers for real-time presentation at a later time." Col. 10, lines 7-10. Furthermore, the *Eldering* reference emphasizes that "[b]y doing away with the requirement for real-time or near real-time distribution . . . it becomes easier to efficiently utilize the available channel bandwidth." Col. 10, lines 22-25. Consequently, the *Eldering* reference teaches away from the claimed invention because its object is to "efficiently utilize the available channel bandwidth" by transmitting the auxiliary data once and storing that data for "real-time presentation at a later time." Col. 10, lines 8-10.

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In contrast, the amended Claim 1 starts transmission of the cache-target data prior to the reproduction time period and repeats the transmission until the end of the reproduction time period. Accordingly, data is repeatedly transmitted, but not all of the transmitted data is necessarily stored, and only data instructed by a separately transmitted "cache instruction" is cached, whereas the *Eldering* reference simply teaches the receiving and storing of transmitted data. Hence, amended Claim 1 is different in different from the *Eldering* reference.

We have already demonstrated the inadequacies of teaching the present invention in the *Eldering* disclosure and under 35 U.S.C. § 103, it would be incumbent upon the teaching in the *Mori* reference to provide a teaching reference for supplementing the deficiencies of the *Eldering* disclosure.

It should be noted that the burden of establishing a *prima facie* case of obviousness lies with the Patent Office. *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988) (stating: "The PTO has the burden under section 103 to establish a *prima facie* case of obviousness"). To establish a *prima facie* case of obviousness, (1) there must be some suggestion or motivation (either in the references themselves or in the knowledge generally available to one of ordinary skill in the art) to combine the reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art reference must teach or suggest all the claim limitations. See MPEP §§ 2142-43.

It is presumed that the *Mori* reference is cited in the Office Action simply for the teaching of a repeatedly broadcasting program data. [page 3, lines 6-7]. The present invention does not purport to be an inventor of repeatedly broadcasting program data. However, the present invention utilizes such abilities to provide a broadcasting apparatus and method that repeatedly broadcasts cache-target data prior to the reproduction time period and until the end of the reproduction time period.

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*Mori* teaches a terminal apparatus capable of instantly displaying, from among a large number of pieces of interactively displayable image information, a piece desired by the operator. The terminal apparatus is characterized by storing in cache all images expected to have possibility of being displayed and images previously displayed, and instantly displaying an interactive screen.

Furthermore, *Mori* teaches of an operator-specific instruction generated exclusively by an individual reception apparatus. Meanwhile, the "cache instruction" of the amended Claim 1 is generated by the transmission apparatus based on the broadcast schedule and the same "cache instruction" is concurrently broadcast to all receivers. Thus, the objective, structure and effect of the amended Claim 1 are different from those in *Mori*.

Neither *Eldering* nor *Mori* disclose, teach or suggest the "cache instruction" of amended Claim 1. Adding the teaching of the *Mori* reference into the *Eldering* reference does not suggest this combination nor the advantages of the present invention. Therefore, there is no basis to combine *Eldering* and *Mori*, and even if the references were combined, the structure of amended Claim 1 would not be attained. As a result, *Mori* does not satisfy the deficiencies of the *Eldering* reference.

Claims 2-6 and 8-9 depend from Claim 1. Thus, these claims are patentably distinct from the combined *Eldering* and *Mori* references for the same reasons advanced above with respect to Claim 1. Moreover, independent Claims 10, 33, 36, 38, 42, 45, 48-57, and their respective dependent claims, are also patentably distinct from the combined *Eldering* and *Mori* references for the same reasons advanced above with respect to Claim 1.

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Applicant accordingly submits that the present invention is more than adequately distinguished over any combination of the references of record by the presently pending claims, and is worthy of patent protection.

If the Examiner believes a telephone interview will assist in the prosecution of this application, the undersigned attorney can be contacted at the listed phone number.

I hereby certify that this correspondence is being transmitted via facsimile to the USPTO at 571-273-8300 on June 16, 2006.

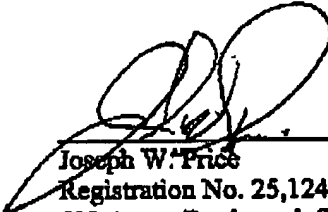
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SNELL & WILMER L.L.P.

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